Topography-mediated Control of Cellular Response: Migration, Intracellular Crowding, and Gene-delivery

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DOI:
10.33612/diss.146106454

PROPOSITIONS

Topography-mediated Control of Cellular Response: Migration, Intracellular Crowding, and Gene-delivery

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1. Topographic stimuli are essential for cell function modulation and play an important role in regulating cell migration, intracellular crowding and gene-delivery. (This Thesis)

2. Topography gradient is a promising strategy to study cell spreading, proliferation, adhesion and migration in an efficient way. (Chapter2)

3. The topographic features like wavelength, amplitude, and orientation play an essential role in fibroblast migration in wound healing procedure. (Chapter3)

4. The topography dimension has an influence on macromolecular crowding in living cells and cell behaviors that contributes to understanding the cells and biomaterials interactions. (Chapter 4)

5. The topography stimulus enhance the gene-delivery capacity of stem cells, which was found to be most likely associated with enhanced cell proliferation and endosome escape capacity. (Chapter 5)

6. The topography feature is a promising platform to be combined with other bio-factors, mechanical stimuli, 3D scaffolds, and anisotropic geometry to regulate cell functions of tissues. (Chapter 6)

7. Life is like riding a bicycle. To keep your balance, you must keep moving.

8. No matter what happened in life, tomorrow is another day.

9. If you want to be happy for an hour, buy a bottle of wine; If you want to be happy for a week, slaughter a pig; If you want to be happy for a year, get married; If you want to be happy for life, enjoy your work.